



EARTHSCAPE HORTICULTURAL SERVICES
Arboricultural, Horticultural and Landscape Consultants

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**ARBORICULTURAL IMPACT
ASSESSMENT REPORT**

PROPOSED MIXED-USE DEVELOPMENT

3-5 HELP STREET, CHATSWOOD

March 2025

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SUMMARY

This Arboricultural Impact Assessment Report (AIAR) has been prepared to accompany a State Significant Development Application (**SSD-76555711**) for the construction of a mixed-use development with in-fill affordable housing (the proposal) on land at 3-5 Help Street, Chatswood (the site). This AIAR is required to be prepared and submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) in accordance with **Section 8** (Trees and Landscaping) of the Planning Secretary's Environmental Assessment Requirements (SEARs).

A total of twenty-three (23) trees located within and immediately adjacent to the site have been included in this assessment. These trees include a variety of non-local native and introduced species, all of which appear to have been planted at various stages. Nineteen (19) of these trees are proposed to be removed to accommodate the proposed development, including sixteen (16) classified as Low or Very Low Retention Value and three (3) classified as Moderate Retention Value (refer Section 6 of this report for assessment methodology). It should be noted that ten (10) of these trees are exempt from Willoughby Council's Tree Management Controls. A further four (4) street trees located on the Help Street frontage, not affected by the proposed development, are proposed to be removed to permit the planting of more appropriate species, consistent with Council's Street Tree Master Plan. Of these, two (2) have been assessed as Low or Very Low Retention Value and two (2) have been assessed as Moderate Retention Value.

Given that none of the subject trees are proposed to be retained as part of the development, no Tree Protection Measures have been included in this report. The only Mitigation Measures included are for replacement planting with new trees to compensate for loss of amenity.

The Landscape Plan prepared by Common Grounds indicates a total of one (1) new tree and twelve (12) new palm trees to be planted within the site, together with four (4) new street trees to be planted on the Help Street frontage. This level of replacement planting will compensate for the loss of amenity incurred from the removal of trees to accommodate the proposed development within the next 10-15 years.

Consultant Declaration (in accordance with Appendix B – SSD Guidelines)

PROJECT DETAILS

Project Name Mixed Use development with in-fill affordable housing

Application number **SSD-7655711**

Address of subject land 3-5 Help Street, Chatswood, NSW

Lot / DP SP 134 and SP 52320

APPLICANT DETAILS

Applicant name Loftus Chatswood Pty Limited

Applicant address Level 18, 141 Walker Street, NORTH SYDNEY, NSW 2059

REPORT DETAILS

Report title Arboricultural Impact Assessment Report (AIAR)

Report reference no. 22-074, Version 4

Report date 6th March 2025

**Company name
(inc. ABN / ACN)** Earthscape Horticultural Services
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DECLARATION BY CONSULTANT

Name Andrew Morton

Registration no. N/A

Organisation registered with Member Arboriculture Australia

Declaration The undersigned declares that this Arboricultural Impact Assessment Report:-

- has been prepared in accordance with the following policy, guidelines, or legislative requirements:
 - AS4970:2009 (Protection of Trees on Development Sites)
- contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the AIAR relates;
- does not contain information that is false or misleading;
- identifies and addresses the relevant Planning Secretary's environmental assessment requirements (SEARs) for the project;
- identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments to which the AIAR relates;
- has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement;

Signature



Date **6th March 2025**

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1 INTRODUCTION

1.1 Overview

- 1.1.1 This Arboricultural Impact Assessment Report (AIAR) has been prepared by Earthscape Horticultural Services on behalf of Loftex Chatswood Pty Ltd for the construction of a mixed-use development with in-fill affordable housing (the proposal) on land at 3-5 Help Street, Chatswood (the site).
- 1.1.2 This report forms part of the Environmental Impact Statement (EIS) prepared to accompany a State Significant Development Application (**SSD-76555711**) that seeks approval for the demolition of the existing residential flat buildings and construction of a mixed-use development, which includes demolition of the existing site structures and construction of a 35-storey shop top housing development comprising:
- A 4-storey podium comprising non-residential uses between ground level and Level 1
 - A 31-storey residential tower comprising 160 units
 - Five-level basement providing a total of 165 parking spaces
 - Ground floor landscaped, public domain improvements, and
 - Services and infrastructure improvements as required.
- 1.1.3 For a detailed project description, refer to the Environmental Impact Statement (EIS).

1.2 Purpose of this Report

- 1.2.1 The purpose of this report is to assess the potential impact of the proposed development on twenty-three (23) trees located within or immediately adjacent to the site, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended Mitigation Measures (Tree Protection Plan and Specification) to mitigate any potential adverse impacts and ensure the long-term preservation of any trees to be retained (where appropriate).

1.3 Secretary's Environmental Assessment Requirements (SEARs)

- 1.3.1 The Department of Planning, Housing and Infrastructure (DPHI) has provided industry specific Secretary's Environmental Assessment Requirements (SEARs) to the applicant (dated 8th October 2024) for the preparation of an Environmental Impact Assessment (EIS) in support of the proposed development.

- 1.3.2 This Arboricultural Impact Assessment Report (AIAR) forms part of the Environmental Impact Statement (EIS) addressing part of **Section 8 (Trees and Landscaping)** of the SEARs. **Table 1** identifies the SEARs and relevant reference within this report:-

| TABLE 1 – SEARS and RELEVANT REFERENCE | | |
|---|--|--|
| SEARs Item | SEARs Requirement | Relevant Sections of the Report |
| 8. Trees and Landscaping (Arboricultural Impact Assessment) | If the proposal involves impacts to trees, provide an Arboricultural Impact Assessment that assesses the number, location, condition and significance of trees to be removed and retained. | All sections |
| | Provide details of any existing canopy coverage to be retained on-site. | Section 9.2 |
| | Provides evidence that opportunities to retain significant trees have been explored and/or informs the [landscape] plan. | Section 9 |

1.4 Reporting Standards

- 1.4.1 This report has been prepared in accordance with:-
- Sections 2.3.2-2.3.5 of the Australian Standard for *Protection of Trees on Development Sites* (AS 4970:2009);
 - Part C.9, Section 9.5 of the *Willoughby Development Control Plan 2012* (WDCP);
 - Willoughby City Council's *Tree Report Requirements* (2007);
 - Section 5.1 and Section 6 of Willoughby City Council's *Vegetation Management Guidelines*; and
 - Willoughby City Council's *Arboricultural Method Statement* (AMS) [LS 04/2007].
- 1.4.2 The report has also been prepared with regard to the *State Significant Development Guidelines* (March 2024) prepared by the NSW Department of Planning, Housing and Infrastructure (DPHI) and in particular Appendix B – *Preparing an Environmental Impact Statement*.

2 THE SITE

2.1 Site Description

- 2.1.1 The subject property is comprised of two (2) Strata Plan (SP) allotments known as SP 134 and SP 52320, being 3 and 5 Help Street, Chatswood. For the purposes of this report, the subject allotments will be referred to as 'the site'. The total area of the site is approximately 2,290 m². The site is bounded by Macintosh Street to the north, Cambridge Lane to the west, Help Street to the south and residential apartments to the east. The site is zoned Mixed Use [B4] under the *Willoughby Local Environmental Plan 2012* (WLEP).
- 2.1.2 3 Help Street contains an existing three-storey residential flat building located in the western portion of the lot surrounded by concrete pavement and 5 Help Street contains two, three-storey residential flat buildings in the central and southern portion of the lot. The site has a slight to moderate southerly gradient with dilapidated lawns and gardens. The site contains a number of mature and semi-mature trees. These include a variety of non-local native and exotic (introduced) species. A number of the trees within 5 Help Street are located within raised planter boxes in close proximity to the buildings, with confined root zones.

2.2 Soil Landscape

2.2.1 The soils of this area are typical of the Blacktown Soil Landscape Group (as classified in the *Soil Landscapes of the Sydney 1:100,000 Sheet*), consisting of shallow to moderately deep (less than 1000 mm) *Red & Brown Podzolic Soils* on crests, upper slopes and well drained areas. Soils on lower slopes and areas of poor drainage consist of deep (1500-3000 mm) *Yellow Podzolic Soils and Soloth Soils* derived Wianamatta Group & Hawkesbury Shales.¹ The landscape generally consists of undulating rises with slopes ranging usually less than 5% grade.

2.3 Original Vegetation Community

2.3.1 The original vegetation community of this area consisted of tall open forest typical of shale/sandstone transitional areas (Turpentine-Ironbark Forest) which was progressively cleared in the mid to late 19th century for timber getting, then for agriculture (mainly orchards and market gardens) in the early 20th century, then later for agricultural and residential development.² The dominant locally-indigenous tree species found in this area include *Angophora costata* (Sydney Red Gum), *Eucalyptus pilularis* (Blackbutt) and *Syncarpia glomulifera* (Turpentine). Other species occurring in this vegetation community may include *Eucalyptus resinifera* (Red Mahogany), *Eucalyptus paniculata* (Grey Ironbark) *Eucalyptus globoidea* (White Stringybark) and *Allocasuarina torulosa* (Forest Oak).

3 SUBJECT TREES

3.1.1 The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 25th November 2022. Each tree has been provided with an identification number for reference purposes denoted on the attached Tree Location Plan (**Appendix 5**), based on the survey prepared by SDG Pty Ltd, Dwg. Ref No. 8917 [C] dated 24/04/2023. The numbers used on this plan correlate with the Tree Assessment Schedule (**Appendix 3**). Tree No. T10 was not shown on the original survey and has been plotted on the drawing in its approximate position by taking offsets from existing features.

4 HEALTH AND CONDITION ASSESSMENT

4.1 Methodology

4.1.1 An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure.³ All of the trees were assessed in view from the ground. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

4.1.2 The following information was collected for each tree:-

- **Tree Species** (Botanical & Common Name);
- **Approximate height**;
- **Canopy spread** (measured using laser distance measurer in four directions and an average taken);
- **Trunk diameter** (measured with a diameter tape at 1.4 metres from ground level);
- **Live Crown Size** (measured by subtracting the total height of the tree from the lowest point of the crown and multiplying by the average crown spread to give a value in square metres);
- **Maturity Class** - the Maturity Class for each tree has been divided into the following categories:-
 - **OM** Over-mature – greater than 80% of the life expectancy for the species;
 - **M** Mature – 50-80% of the life expectancy for the species;
 - **SM** Semi-mature – 20-50% of the life expectancy for the species;
 - **I** Immature – less than 20% of the life expectancy for the species.

- **Health & vigour** (using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators),
- **Condition** (using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators); and
- **Suitability** of the tree to the site and its existing location (in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues).

4.1.3 This information is presented in a tabulated form in **Appendix 3**.

4.2 Safe Useful Life Expectancy (SULE)

4.2.1 The remaining Safe Useful Life Expectancy⁴ of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated SULE of each tree is shown in **Appendix 3**.

4.2.2 The following ranges have been allocated to each tree:-

- Greater than 40 years (Long)
- Between 15 and 40 years (Medium)
- Between 5 and 15 years (Short)
- Less than 5 years (Transient)
- Dead or immediately hazardous (defective or unstable)

4.2.3 SULE ratings are intended to provide a general overview of the long-term sustainability of the trees within the site in consideration of these factors. The allocated ranges are not intended to be absolute. This information is useful in guiding future planning by highlighting the probable lifespan of individual trees, for which a clear pattern may emerge. This information may be helpful in forecasting likely tree senescence and planning for replacement planting to ensure continuity in tree canopy across the site. It should be noted that SULEs *may* be extended or reduced depending on the way trees are managed. Intervention and remedial works may extend the SULE of some trees.

5 LANDSCAPE SIGNIFICANCE

5.1 Methodology for Determining Landscape Significance

5.1.1 The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. Whilst these values may be fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the retention value of each tree. To ensure a consistent approach, the assessment criteria shown in **Appendix 1** have been used in this assessment.

5.1.2 A rating has been applied to each tree to give an understanding of the relative significance of each tree in the landscape and to assist in determining priorities for retention, in accordance with the following categories:-

1. **Significant**
2. **Very High**
3. **High**
4. **Moderate**
5. **Low**
6. **Very Low**

7. Insignificant

5.2 Environmental Significance

5.2.1 Tree Management Controls

Prescribed Trees within the City of Willoughby Local Government Area (LGA) are protected under Section C.9 of the *Willoughby Development Control Plan 2012* (WDCP) made pursuant to Part 3, Clause 9 of the *State Environmental Planning Policy (Vegetation in Non-rural Areas) 2017* (Vegetation SEPP). The WDCP generally protects all trees with a height of four (4) metres or greater and/or with a trunk circumference exceeding 600 mm (i.e. 200 mm diameter) and/or a canopy spread exceeding three (3) metres. The WDCP also protects all trees listed on Council's *Natural Heritage Register* and all trees listed as Vulnerable or Threatened Species or forming a component of an Endangered Ecological Community (EEC), regardless of their dimensions. Some exemptions apply. The following trees are exempt (not protected) under the provisions of the WDCP:-

| TABLE 2 – EXEMPT TREE SPECIES | | |
|-----------------------------------|---|---|
| Tree No. | Species | Exemption |
| T3, T11, T14, T15, T16, T21 & T22 | <i>Gleditsia triacanthos</i> (Honey Locust) | Noxious Weed, Environmental Weed Species |
| T23 | <i>Fraxinus griffithii</i> (Evergreen Ash) | Environmental Weed Species, Undesirable Species |
| T6 & T7 | <i>Plumeria acutifolia</i> (Frangipani) | Undesirable Species |

The remainder of the trees are protected under Council's Tree Management Controls.

5.2.2 Wildlife Habitat

All of the trees are exotic (introduced) or non-local native species that would be of some benefit to native wildlife. However, none of the trees contain cavities that would be suitable as nesting hollows for arboreal mammals or birds. There were no other visible signs of wildlife habitation.

5.2.3 Noxious Plants & Environmental Weeds

Gleditsia triacanthos (Honey Locust) [T3, T11, T14, T15, T16, T21, T22] is scheduled as a potential 'Biosecurity Risk' ('Priority Weed' – formerly 'Noxious Weed') within all of NSW under the provisions of the *Biosecurity Act 2015*. The growth of this plant species must be managed in a manner that continuously inhibits the ability of the plant to spread (so far as is reasonably practicable) and the plant must not be sold, propagated or knowingly distributed.

Note that whilst *Phoenix canariensis* (Canary Island Palm) is scheduled as an Undesirable Species within the Willoughby LGA, any Canary Island Palms that have a trunk height exceeding 7 metres (including T9) are protected under Council's Tree Management Controls.

5.2.4 Threatened Species & Ecological Communities

None of the subject trees are listed as Threatened or Vulnerable Species or form part of Endangered Ecological Communities (EECs) under the provisions of the *Biodiversity Conservation Act 2016* (NSW) or the *Environment Protection and Biodiversity Conservation Act 1999*.

The National Parks and Wildlife Service (NPWS) 1:25000 Mapping Series (Native Vegetation of the Cumberland Plain)⁵ indicates that there are no remnant native vegetation communities within or in the vicinity of the site.

5.2.5 *Biodiversity, Bushfire & Riparian Lands*

The NSW Office of Environment and Heritage (OEH) *Biodiversity Values Map and Threshold Tool* (refer <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>), indicates that there is no vegetation on or near the site that is subject to the Biodiversity Offset Scheme (BOS).

The site does *not* contain any Bushfire Prone Land as indicated on Council's Bush Fire Prone Land Map (2017). The site is *not* within a 'Designated Bush Fire Prone Area' as defined by the NSW Rural Fire Service (RFS). The site is *not* within a 'Designated 10/50 Vegetation Clearing Entitlement Area' as defined by the NSW RFS.

5.3 Heritage Significance

5.3.1 *Heritage Items*

The subject property is *not* listed as an item of Environmental Heritage under Schedule 5, Part 1 of the *Willoughby Local Environmental Plan 2012* (WLEP).

5.3.2 *Heritage Conservation Area*

The site is *not* located within a Heritage Conservation Area under Schedule 5, Part 2 of the WLEP 2012.

5.3.3 *Natural Heritage Register*

None of the subject trees are listed on Willoughby Council's *Natural Heritage Register*.

5.3.4 *General*

The 1943 Aerial Photograph of Sydney (SIX Maps) indicates that site had been completely cleared of native vegetation at this time and had been developed for residential housing. Two (2) residential dwellings are extant at this time located on the Macintosh Street frontage, together with another dwelling located centrally within 5 Help Street. The site contains a few small trees. T9 (Canary Island Palm) and T1 (Port Wine Magnolia) appear to be extant at this time and were probably planted in the Inter-War Period (1919-1939), being fairly typical of the species used in this era and being of a size and estimated age consistent with this time frame.

Based on analysis of Historical Imagery of the site (NSW Spatial Services), both of these trees [T1 & T9] appear to have been retained during successive redevelopment of the site, being visible in the 1955, 1965 and 1986 aerial images. All of the other trees within the site appear to be relatively recent plantings (post-1990) and have no known or suspected heritage significance.

5.4 Amenity Value

5.4.1 Criteria for the assessment of amenity values are incorporated into **Appendix 1**. The amenity value of a tree is a measure of its live crown size, visual appearance (form, habit, crown density), visibility and position in the landscape and contribution to the visual character of an area. Generally the larger and more prominently located the tree, and the better its form and habit, the higher its amenity value.

6 TREE RETENTION VALUES

6.1.1 The Retention Values shown in **Appendix 3** and **Appendix 5** have been determined on the basis of the estimated longevity of the trees and their landscape significance rating, in accordance with **Table 2**. Together with guidelines contained in **Section 7** (Tree Protection Zones) this information should be used to determine the most appropriate position of building footprints and other

infrastructure within the site, with due consideration to other site constraints, to minimise the impact on trees considered worthy of preservation.

| TABLE 2 – TREE RETENTION VALUES – ASSESSMENT METHODOLOGY | | | | | | | |
|--|-------------------------------|---|--------------------------|--------------------------|---|---|---|
| Estimated Life Expectancy | Landscape Significance Rating | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Long - Greater than 40 Years | High Retention Value | | | | | | |
| Medium- 15 to 40 Years | | | Moderate Retention Value | | | | |
| Short - 5 to 15 years | | | Low Ret. Value | | | | |
| Transient - Less than 5 Years | | | | Very Low Retention Value | | | |
| Dead or Potentially Hazardous | | | | | | | |

6.1.2 The following table describes the implications of the retention values on site layout and design.

| TABLE 3 – TREE RETENTION PRIORITIES. | |
|--------------------------------------|---|
| RETENTION VALUE | RECOMMENDED ACTION |
| “High” | <p>These trees considered worthy of preservation; as such careful consideration should be given to their retention as a priority.</p> <p>Proposed site design and placement of buildings and infrastructure should consider the recommended setbacks as discussed in the following section to avoid any adverse impact on these trees (refer also Appendix 2 for examples of acceptable encroachments)</p> <p>In addition to Tree Protection Zones, the extent of the canopy (canopy drip-line) should also be considered, particularly in relation to multi-storey developments. Significant canopy pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.</p> |
| “Moderate” | <p>The retention of these trees is desirable, but not essential.</p> <p>These trees should be retained as part of any proposed development if possible. However, these trees are considered less critical for retention.</p> <p>If these trees must be removed, replacement planting should be considered in accordance with Council’s Tree Replenishment Policy to compensate for loss of amenity (refer also Section 11).</p> |
| “Low” | <p>These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their SULE.</p> <p>These trees should not be considered as a constraint to the future development of the site.</p> |
| “Very Low” | <p>These trees are considered potentially hazardous or very poor specimens, or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.</p> |

7 TREE PROTECTION ZONES

7.1.1 The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree as specified in **Appendix 4**. These have been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).⁶

- 7.1.2 The intention of the TPZ is to ensure protection of the root system and canopy from the potential damage from construction works and ensure the long-term health and stability of each tree to be retained. Incursions to the root zone may occur due to excavations, changes in ground levels, (either lowering or raising the grade), trenching or other forms of soil disturbance such as ripping, grading or inverting the soil profile. Such works may cause damage or loss of part of the root system, leading to an adverse impact on the tree.

7.2 Structural Root Zone (SRZ)

- 7.2.1 The Structural Root Zone (SRZ) provides the bulk of mechanical support and anchorage for a tree. This is also a radial distance measured from the centre of the trunk as specified in **Appendix 4**. The SRZ has been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).
- 7.2.2 Incursions within the SRZ are not recommended as they are likely to result in the severance of woody roots which may compromise the stability of the tree or lead to its decline and demise.

7.3 Acceptable Encroachments to the Tree Protection Zone.

- 7.3.1 Where encroachment to the TPZ is unavoidable, an incursion to the TPZ of not exceeding 10% of the area of the TPZ and outside the SRZ may be acceptable. Examples of acceptable incursions are shown in **Appendix 2**. Greater incursions to the TPZ may result in an adverse impact on the tree.
- 7.3.2 Where incursions greater than 10% of the TPZ are unavoidable, exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system affected and determine whether or not the tree can remain viable

7.4 Acceptable Encroachments to the Canopy

- 7.4.1 The removal of a small portion of the crown (foliage and branches) is generally tolerable provided that the extent of pruning required is less than 10% of the total foliage volume of the tree and the removal of branches does not create large wounds or disfigure the natural form and habit of the tree. All pruning cuts must be undertaken in accordance with AS 4373:2007. This generally involves reduction of the affected branches back to the nearest branch collar at the junction with the parent branch, rather than at an intermediate point. The latter is referred to as “lopping” and is no longer an acceptable arboricultural practice. Generally speaking, the minimum pruning as required to accommodate any proposed works is desirable. Extensive pruning can result in a detrimental impact on tree health and may lead to exposure of remaining branches to wind forces that they were previously sheltered from, leading to a greater risk of branch failure.
- 7.4.2 Clearance to between the building line and canopy should take into account any projecting structures, such as balconies, awnings and the roofline and any requirement for temporary scaffolding to be erected during construction (typically 1-1.5 metres wide). High structures should preferably be located outside the canopy dripline (as shown indicatively on the attached plans) in order to avoid or minimise canopy pruning.

8 PROPOSED DEVELOPMENT

- 8.1.1 The proposed development includes the demolition of the existing residential flat buildings and construction of a new Mixed-use Development (retail/commercial & residential) within the property, together with associated landscape works.

9 IMPACT ASSESSMENT

9.1.1 The intention of this assessment is to determine the incursions to the root zones and canopies created by the proposed development and evaluate the likely impact of the proposed works on the subject trees. Details shown on the following plans were used in this assessment:-

| Title | Author | Dwg No. [Rev.] | Date |
|--------------------------------------|---------------------------------------|-------------------------------|------------|
| <i>Landscape Plans and Details</i> | Common Grounds Landscape Architecture | 2210 L-01 to L11 [C] | 11/05/2023 |
| <i>Site Demolition Plan</i> | EM BC CE | 22023 / SSDA-0102 [-] | 20/12/2024 |
| <i>Proposed Site Plan</i> | EM BC CE | 22023 / SSDA-0110 [-] | 20/12/2024 |
| <i>Public Domain Plan</i> | EM BC CE | 22023 / SSDA-0111 [-] | 20/12/2024 |
| <i>Basement Plans (Levels 05-01)</i> | EM BC CE | 22023 / SSDA-1000 - 1004 [A] | 12/02/2025 |
| <i>Lower Ground Floor Plan</i> | EM BC CE | 22023 / SSDA-1010 [A] | 12/02/2025 |
| <i>Upper Ground Floor Plan</i> | EM BC CE | 22023 / SSDA-1011 [-] | 20/12/2024 |
| <i>Mezzanine Plan</i> | EM BC CE | 22023 / SSDA-1100 [-] | 20/12/2024 |
| <i>Levels 01-33 Plan</i> | EM BC CE | 22023 / SSDA-1101 to 1123 [-] | 20/12/2024 |
| <i>Roof Plan</i> | EM BC CE | 22023 / SSDA-1026 [-] | 20/12/2024 |
| <i>Elevations</i> | EM BC CE | 22023 / SSDA-2000 to 2003 [-] | 20/12/2024 |
| <i>Sections</i> | EM BC CE | 22023 / SSDA-3000 to 3001 [-] | 20/12/2024 |

9.1.2 A summary of the impact of the proposed development on each tree within the site is shown in **Appendix 4**. The following criteria have been examined as part of this assessment:-

- Existing Relative Levels (R.L.);
- Tree Protection Zone (TPZ);
- Structural Root Zone (SRZ);
- Footprint and envelope of the proposed development and temporary structures (scaffolding, hoardings etc);
- Incursions to the TPZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures; and
- Assessment of the likely impact of the works on existing trees.

9.1.3 The proposed development will necessitate the removal of sixteen (16) trees of low and very low retention value. These include Tree No.s T1 (Port Wine Magnolia), T3, T11, T14, T15, T16, T21 & T22 (Honey Locust), T4 (Camellia), T6 & T7 (Frangipani), T8 (Soft-tip Yucca), T10 (Sasanqua Camellia), T12 (Japanese Maple), T13 (Golden Hinoki Cypress) & T23 (Evergreen Ash). None of these trees are considered significant or worthy of special measures to ensure their preservation. The removal of these trees to accommodate the proposed development is therefore considered warranted in this instance. It should be noted that T3, T6, T7, T11, T14, T15, T16, T21, T22 & T23 are all exempt from Council's Tree Management Controls (refer to **Section 5.2.1**).

9.1.4 The proposed development will also necessitate the removal of three (3) trees of moderate retention value. These include Tree No.s T2 & T5 (Sasanqua Camellia) and T9 (Canary Island

Palm). These trees are not considered significant, but are in good health and condition and make a fair contribution to the amenity of the site and surrounding properties. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees elsewhere within the site in accordance with **Section 11**.

9.1.5 Trees T17, T18, T19 & T20 (all Crows Foot Ash), whilst not adversely impacted by the proposed development, are also proposed to be removed and replaced with new street planting in accordance with Council's DCP and Street Tree Master Plan. Of these, trees T17 & T20 have been assessed as low and very low retention value and trees T18 & T19 have been assessed as moderate retention value.

9.1.6 No other trees will be adversely affected by the proposed development.

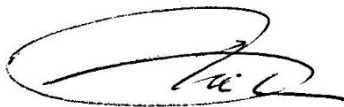
9.2 Canopy Cover to be Removed & Retained

9.2.1 The total canopy cover to be retained within the site is 0 m² (all trees are proposed to be removed). The total canopy cover loss, including street trees, is approximately 750 m² in total (noting that the canopy area of some trees extend beyond the site boundaries). The total canopy cover to be removed confined to the site boundaries is approximately 370 m² (about 16% of the total area of the site).

10 REPLACEMENT PLANTING

10.1.1 In accordance with the Section 7.2 of Willoughby Councils *Vegetation Management Guidelines*, where approval for the removal of a tree is approved by Council, a minimum number of three (3) new trees are required to be planted within the site in order to compensate for loss of amenity (i.e. a ratio of three trees to be planted for each tree proposed to be removed). However, given the Land Zoning and extent of site development, there is insufficient space available within the site to plant the number of trees stipulated under the Guidelines.

10.1.2 The Landscape Plan prepared by Common Grounds indicates one (1) Port Jackson Fig to be planted within the site on the Help Street frontage (with the building setback/deep soil area) and twelve (12) Cabbage Tree Palms to be planted within the site on the Cambridge Lane frontage. Four (4) new Water Gums are also proposed to be planted on the Help Street frontage to replace the four (4) Crows foot Ash that are proposed to be removed. This level of compensatory planting is considered the best that can be achieved given the available deep soil area.



Andrew Morton
EARTHSCAPE HORTICULTURAL SERVICES
6th March 2025

REFERENCES

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Soil Conservation Service of NSW. Sydney

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Taken for Granted: the Bushland of Sydney and its Suburbs.

Kangaroo Press & The Royal Botanic Gardens, Sydney, NSW

³ Mattheck, Dr. Claus & Breloer, Helge (1994) – Sixth Edition (2001)

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The Stationery Office, London, England

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Pre-development Tree Assessment

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⁵ National Parks and Wildlife Service of NSW (October 2002)

Native Vegetation of the Cumberland Plain - 1:25000 Mapping Series (Map 10 of 16)

NPWS, Sydney NSW

⁶ Council of Standards Australia (August 2009)

AS 4970 – 2009 – Protection of Trees on Development Sites

Standards Australia, Sydney

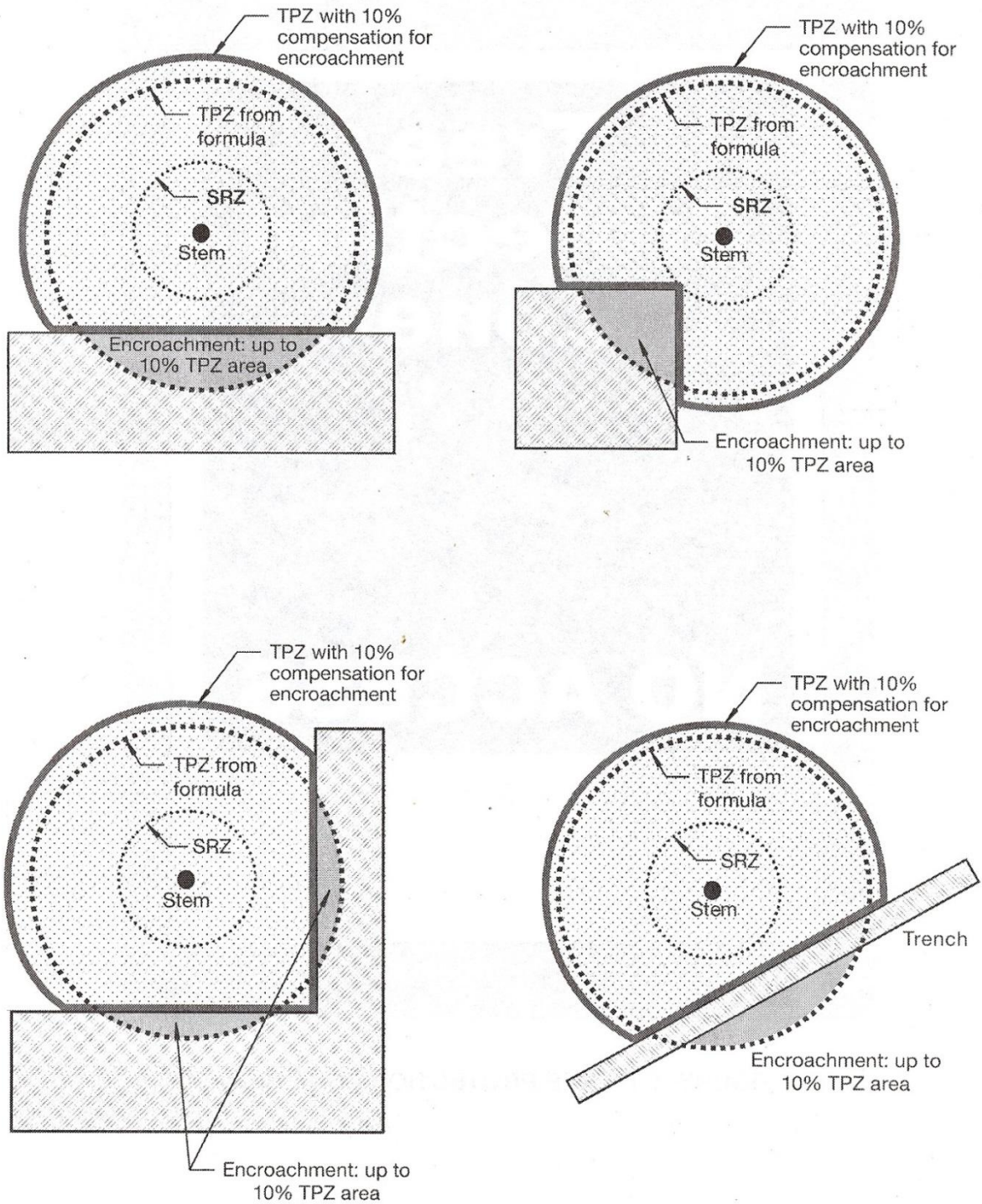
APPENDIX 1 - CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

| RATING | HERITAGE VALUE | ECOLOGICAL VALUE | AMENITY VALUE |
|-----------------------------|---|---|--|
| 1. SIGNIFICANT | The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register | The subject tree is scheduled as a Threatened or Vulnerable Species as defined under the provisions of the <i>Biodiversity Conservation Act 2016</i> (NSW) or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> . | The subject tree has a very large live crown size exceeding 300m ² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species |
| | The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has a known or documented association with that item | The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species | The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity |
| | The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event | The subject tree is a Remnant Tree, being a tree in existence prior to development of the area | The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance. |
| 2. VERY HIGH | The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site. | The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site. | The subject tree has a very large live crown size exceeding 200m ² ; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area |
| 3. HIGH | The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence | The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value | The subject tree has a large live crown size exceeding 100m ² ; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area |
| 4. MODERATE | The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting. | The subject tree is a non-local native or exotic species that is protected under the provisions of the local or state planning controls (Development Control Plan etc). | The subject tree has a medium live crown size exceeding 40m ² ; the tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and |
| | | | The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area. |
| 5. LOW | The subject tree detracts from heritage values or diminishes the value of a heritage item | The subject tree is scheduled as exempt (not protected) under the provisions of the local or state planning controls (DCP etc) due to its species, nuisance or position relative to buildings or other structures. | The subject tree has a small live crown size of less than 40m ² and can be replaced within the short term (5-10 years) with new tree planting |
| 6. VERY LOW | The subject tree is causing significant damage to a heritage Item. | The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species. | The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse). |
| 7. INSIGNIFICANT | The tree is completely dead and has no known heritage value (or any habitat value) | The tree is scheduled as a potential 'Biosecurity Risk' ('Priority Weed' – formerly 'Noxious Weed') within NSW or within the relevant Local Government Area under the provisions of the <i>Biosecurity Act 2015</i> | The tree is completely dead and represents a potential hazard. |

Ref:- Morton, A (2006) **Determining the Retention Value of Trees on Development Sites**

TreeNet - Proceedings of the 7th National Street Tree Symposium 2006 Government of South Australia Department for Transport, Energy and Infrastructure

APPENDIX 2 – ACCEPTABLE INCURSIONS TO THE TREE PROTECTION ZONE (TPZ)



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

REF:- Council of Standards Australia (August 2009)
AS 4970 – 2009 – Protection of Trees on Development Sites
 Standards Australia, Sydney

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Height (m) | Spread (m) | Trunk Diameter (mm) at 1.4 metres | Live Crown Size (m ²) | Maturity Class | Condition | Previous Pruning | Health | | Remaining Safe Useful Life Expectancy (SULE) | Landscape Significance Rating | Retention Value | Location |
|-------------------------|---|------------|------------|-----------------------------------|-----------------------------------|----------------|---|----------------------------|-----------------------------------|----------------|--|-------------------------------|-----------------|----------|
| | | | | | | | | | Vigour | Pest & Disease | | | | |
| 1 | <i>Michelia figo</i> (Port Wine Magnolia) | 6 | 5 | 120x8 | 25 | M | Appears stable with fair branching structure. Exhibits multiple moderate bark inclusions at junction of co-dominant PLs at GL. Some dieback with 20% deadwood. | Selectively pruned | Fair with slightly thinning crown | No Evidence | Short 5-15 Years | 5 | Low | On-site |
| 2 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | 5 | 5 | 80x3 + 120 + 160 | 25 | M | Appears stable with fair branching structure. Exhibits a low bark inclusion at junction of PL at 0.5 metres. | No evidence | Very Good | No Evidence | Long - more than 40 years | 5 | Moderate | On-site |
| 3 | <i>Gleditsia triacanthos</i> (Honey Locust) | 11 | 9 | 264 | 72 | SM | Appears stable with sound branching structure. Located within a small garden island surrounded by pavement. Limited root zone. Located close to Overhead domestic ABC (< 0.5 metres). | Crown lifted to 4 metres | Very Good | No Evidence | Medium 15-40 Years | 6 | Low | On-site |
| 4 | <i>Camellia japonica</i> (Camellia) | 4.5 | 3.5 | 70x2 + 50 | 12.25 | SM | Appears stable with fair branching structure. Crown suppressed on the south side due to crowding. | No evidence | Fair with slightly thinning crown | No Evidence | Medium 15-40 Years | 5 | Low | On-site |
| 5 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | 7 | 5.5 | 170 | 27.5 | M | Appears stable with sound branching structure. | Crown lifted to 3 metres | Good | No Evidence | Long - more than 40 years | 4 | Moderate | On-site |
| 6 | <i>Plumeria acutifolia</i> (Frangipani) | 3.5 | 5 | 120x2 | 12.5 | SM | Appears stable with sound branching structure. | Crown lifted to 1.5 metres | Good | No Evidence | Medium 15-40 Years | 6 | Low | On-site |
| 7 | <i>Plumeria acutifolia</i> (Frangipani) | 3.5 | 3 | 90 + 80 | 7.5 | I | Appears stable with sound branching structure. | Crown lifted to 1.5 metres | .Fair | No Evidence | Medium 15-40 Years | 6 | Low | On-site |
| 8 | <i>Yucca elephantipes</i> (Soft-tipped Yucca) | 6 | 6 | 150x6 | 36 | M | Appears stable with fair branching structure. Located close to an existing retaining wall (< 1 metre). | No evidence | Good | No Evidence | Medium 15-40 Years | 5 | Low | On-site |

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Height (m) | Spread (m) | Trunk Diameter (mm) at 1.4 metres | Live Crown Size (m ²) | Maturity Class | Condition | Previous Pruning | Health | | Remaining Safe Useful Life Expectancy (SULE) | Landscape Significance Rating | Retention Value | Location |
|-------------------------|---|------------|------------|-----------------------------------|-----------------------------------|----------------|---|--------------------------|-----------------------------------|--|--|-------------------------------|-----------------|----------|
| | | | | | | | | | Vigour | Pest & Disease | | | | |
| 9 | <i>Phoenix canariensis</i> (Canary Island Palm) | 12 | 6.5 | 600 | 39 | M | Appears stable with sound branching structure. Root mass growing over public footpath. Located within small raised garden area surrounded by pavement. | No evidence | Good | Multiple Epiphytes on trunk (Sweet Pittosporum, Port Jackson Fig, Moreton Bay Fig) | Medium 15-40 Years | 4 | Moderate | On-site |
| 10 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | 5 | 5 | 80 | 15 | I | Appears stable with sound branching structure. Located close to existing residential flat building (< 1 metre). | Crown lifted to 2 metres | Good | No Evidence | Medium 15-40 Years | 5 | Low | On-site |
| 11 | <i>Gleditsia triacanthos</i> (Honey Locust) | 12 | 12 | 344 | 108 | M | Stability suspect with fair with sound branching structure. Exhibits a very prominent lean to the west. (self-corrected). Exhibits some interior crown dieback with 15% deadwood. Located within small garden area. | Selectively pruned | Fair with slightly thinning crown | No Evidence | Medium 15-40 Years | 6 | Low | On-site |
| 12 | <i>Acer palmatum</i> (Japanese Maple) | 5 | 6 | 130 + 180 | 18 | M | Appears stable with poor branching structure. Exhibits multiple moderate axial wounds on PLs due previous sunburn with secondary borer damage and decay. Exhibits a severe bark inclusion at junction of co-dominant PLs at GL. | Selectively pruned | Fair with thinning crown | No Evidence | Short 5-15 Years | 5 | Low | On-site |
| 13 | <i>Chamaecyparis obtusa</i> 'Crippsii' (Golden Hinoki Cypress) | 6 | 8 | 182 | 40 | SM | Appears stable with sound branching structure. Exhibits multiple moderate wounds due to previous pruning. | Selectively pruned | Good | No Evidence | Medium 15-40 Years | 5 | Low | On-site |
| 14 | <i>Gleditsia triacanthos</i> (Honey Locust) | 10 | 9 | 290 | 72 | SM | Appears stable with sound branching structure. Exhibits a prominent lean to the south-east. Crown suppressed on the west side due to existing building. Located within small raised planter box. | Crown lifted to 4 metres | Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |
| 15 | <i>Gleditsia triacanthos</i> (Honey Locust) | 11 | 11 | 255 | 55 | SM | Appears stable with sound branching structure. Exhibits a very prominent lean to the south. Crown suppressed on the north side due to existing building. Located within small raised planter box. | Crown lifted to 4 metres | Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Height (m) | Spread (m) | Trunk Diameter (mm) at 1.4 metres | Live Crown Size (m ²) | Maturity Class | Condition | Previous Pruning | Health | | Remaining Safe Useful Life Expectancy (SULE) | Landscape Significance Rating | Retention Value | Location |
|-------------------------|---|------------|------------|-----------------------------------|-----------------------------------|----------------|--|--------------------------|-----------------------------------|----------------|--|-------------------------------|-----------------|--------------|
| | | | | | | | | | Vigour | Pest & Disease | | | | |
| 16 | <i>Gleditsia triacanthos</i> (Honey Locust) | 12 | 11 | 350 | 88 | SM | Appears stable with fair branching structure. Located within small raised planter box close to the existing building. Exhibits a very prominent lean to the south. | Crown lifted to 4 metres | Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |
| 17 | <i>Flindersia australis</i> (Crows Foot Ash) | 5 | 4 | 120x2 | 16 | I | Appears stable with fair branching structure. 40% interior crown deadwood | Crown lifted to 2 metres | Poor with sparse crown | No Evidence | Transient (less than 5 years) | 5 | Very Low | Nature strip |
| 18 | <i>Flindersia australis</i> (Crows Foot Ash) | 8 | 5 | 277 | 25 | SM | Appears stable with sound branching structure. 30% interior crown deadwood (lower crown). | Crown lifted to 2 metres | Fair with thinning crown | No Evidence | Long - more than 40 years | 5 | Moderate | Nature strip |
| 19 | <i>Flindersia australis</i> (Crows Foot Ash) | 10 | 7 | 268 | 49 | SM | Appears stable with sound branching structure. 30% interior crown deadwood (lower crown). | Crown lifted to 2 metres | Fair with slightly thinning crown | No Evidence | Long - more than 40 years | 4 | Moderate | Nature strip |
| 20 | <i>Flindersia australis</i> (Crows Foot Ash) | 3.5 | 3 | 102 | 7.5 | I | Appears stable with fair branching structure. Exhibits a prominent lean to the east (self-corrected). Upper crown suppressed due to overshadowing. | No evidence | Fair with slightly thinning crown | No Evidence | Short 5-15 Years | 5 | Low | Nature strip |
| 21 | <i>Gleditsia triacanthos</i> (Honey Locust) | 11 | 10 | 230 | 80 | SM | Stability suspect with fair branching structure. Located within small raised planter box close to the existing building. Exhibits a prominent lean to the south. | Crown lifted to 4 metres | Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |
| 22 | <i>Gleditsia triacanthos</i> (Honey Locust) | 12 | 11 | 350 | 99 | SM | Stability suspect with fair branching structure. Located within small raised planter box close to the existing building. Exhibits a prominent lean to the south. | Crown lifted to 4 metres | Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |
| 23 | <i>Fraxinus griffithii</i> (Evergreen Ash) | 5 | 5 | 100x2 | 15 | I | Appears stable with sound branching structure. | No evidence | Very Good | No Evidence | Short 5-15 Years | 6 | Very Low | On-site |

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Construction Tolerance | Tree Protection Zone (m R) | Structural Root Zone (m R) | Minimum Setback Distance (tangent to root plate) | TPZ (m ²) | Incursions To Root Zone &/or Canopy | Likely Impact | Recommendation |
|-------------------------|---|------------------------|----------------------------|----------------------------|--|-----------------------|---|--|---|
| 1 | <i>Michelia figo</i> (Port Wine Magnolia) | M | 5.4 | 2.7 | 3.7 | 91.6 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |
| 2 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | M | 2.6 | 1.8 | 1.8 | 21.9 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 10. |
| 3 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 5.0 | 1.9 | 3.4 | 78.5 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |
| 4 | <i>Camellia japonica</i> (Camellia) | M | 2.0 | 1.5 | 1.4 | 12.6 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |
| 5 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | M | 3.0 | 1.8 | 2.0 | 28.3 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 10. |
| 6 | <i>Plumeria acutifolia</i> (Frangipani) | M | 3.0 | 1.6 | 2.0 | 28.3 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |
| 7 | <i>Plumeria acutifolia</i> (Frangipani) | M | 2.0 | 1.4 | 1.4 | 12.6 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |
| 8 | <i>Yucca elephantipes</i> (Soft-tipped Yucca) | G | 4.2 | 2.3 | 2.9 | 55.4 | Located within footprint of proposed building & basement. | Proposed works will necessitate removal. | Remove tree. |

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

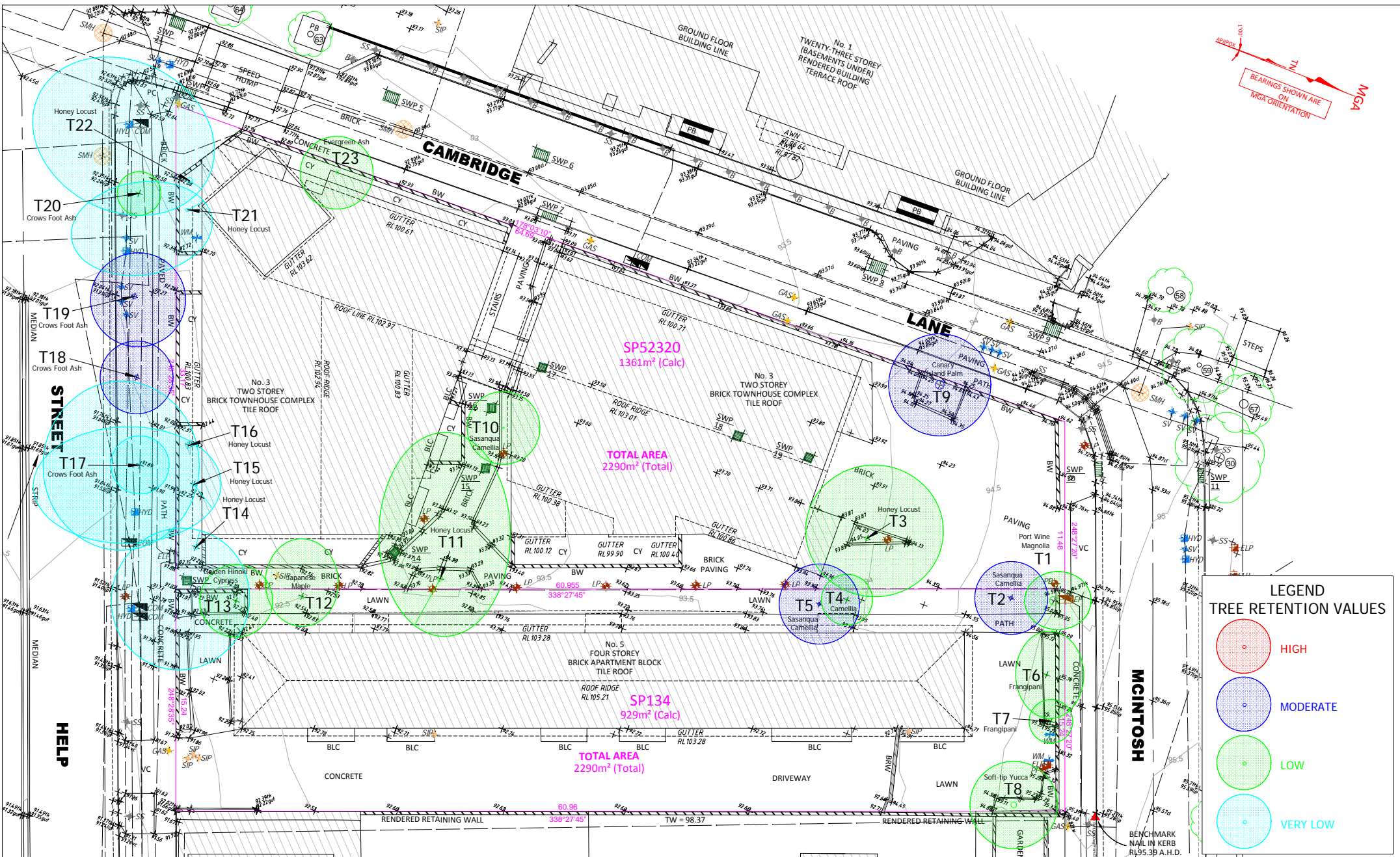
| Tree Identification No. | Species | Construction Tolerance | Tree Protection Zone (m R) | Structural Root Zone (m R) | Minimum Setback Distance (tangent to root plate) | TPZ (m ²) | Incursions To Root Zone &/or Canopy | Likely Impact | Recommendation |
|-------------------------|---|------------------------|----------------------------|----------------------------|--|-----------------------|--|--|---|
| 9 | <i>Phoenix canariensis</i> (Canary Island Palm) | G | 5.0 | 2.7 | 3.4 | 78.5 | Existing brick fence offset 1.4 metres north and south to be demolished within TPZ. Proposed basement offset 1.7 metres east at RL79.89 (approximately 14.5 metres below grade). Bulk excavation for basement and associated retaining wall foundations within TPZ. Encroachment to TPZ (excluding any temporary batter) = 28%. Located within footprint of new concrete unit turf pavement [Pavement Type 01c]. | Extent of encroachment to TPZ exceeds acceptable limits under AS4970:2009. Excavations for the basement and associated retaining wall will result in an adverse impact on this tree. | Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 10. |
| 10 | <i>Camellia sasanqua</i> (Sasanqua Camellia) | M | 3.0 | 1.3 | 2.0 | 28.3 | Located within footprint of proposed building. | Proposed works will necessitate removal. | Remove tree. |
| 11 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 6.0 | 2.1 | 4.1 | 113.0 | Located within footprint of proposed building. | Proposed works will necessitate removal. | Remove tree. |
| 12 | <i>Acer palmatum</i> (Japanese Maple) | M | 3.5 | 1.8 | 2.4 | 38.5 | Located within footprint of proposed building. | Proposed works will necessitate removal. | Remove tree. |
| 13 | <i>Chamaecyparis obtusa</i> 'Crippsii' (Golden Hinoki Cypress) | M | 2.7 | 1.7 | 1.8 | 22.9 | Located within footprint of proposed building. | Proposed works will necessitate removal. | Remove tree. |
| 14 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 5.0 | 2.0 | 3.4 | 78.5 | Located within footprint of proposed new pedestrian ramp and associated retaining walls. | Proposed works will necessitate removal. | Remove tree. |

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Construction Tolerance | Tree Protection Zone (m R) | Structural Root Zone (m R) | Minimum Setback Distance (tangent to root plate) | TPZ (m ²) | Incursions To Root Zone &/or Canopy | Likely Impact | Recommendation |
|-------------------------|---|------------------------|----------------------------|----------------------------|--|-----------------------|--|--|---|
| 15 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 6.0 | 1.9 | 4.1 | 113.0 | Located within footprint of proposed new pedestrian ramp and associated retaining walls. | Proposed works will necessitate removal. | Remove tree. |
| 16 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 6.0 | 2.2 | 4.1 | 113.0 | Located within footprint of proposed new pedestrian ramp and associated retaining walls. | Proposed works will necessitate removal. | Remove tree. |
| 17 | <i>Flindersia australis</i> (Crows Foot Ash) | M | 2.5 | 1.5 | 1.7 | 19.6 | No proposed works within TPZ. | No adverse impact. Proposed to be removed an replaced with alternative (new) tree planting in accordance with Council's DCP + Street Tree Master Plan. | Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 10. |
| 18 | <i>Flindersia australis</i> (Crows Foot Ash) | M | 3.3 | 2.0 | 2.3 | 34.7 | No proposed works within TPZ. | No adverse impact. Proposed to be removed an replaced with alternative (new) tree planting in accordance with Council's DCP + Street Tree Master Plan. | Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 10. |
| 19 | <i>Flindersia australis</i> (Crows Foot Ash) | M | 3.7 | 2.0 | 2.5 | 43.0 | No proposed works within TPZ. | No adverse impact. Proposed to be removed an replaced with alternative (new) tree planting in accordance with Council's DCP + Street Tree Master Plan. | Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 10. |
| 20 | <i>Flindersia australis</i> (Crows Foot Ash) | M | 2.0 | 1.4 | 1.4 | 12.6 | No proposed works within TPZ. | No adverse impact. Proposed to be removed an replaced with alternative (new) tree planting in accordance with Council's DCP + Street Tree Master Plan. | Undertake replacement planting with a new tree elsewhere within the road reserve to compensate for loss of amenity in accordance with Section 10. |
| 21 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 5.0 | 1.8 | 3.4 | 78.5 | Surrounding raised planted and adjacent building to be demolished within SRZ/TPZ. Located within footprint of proposed new landscape area within pedestrian plaza. | Proposed works will necessitate removal. | Remove tree. |
| 22 | <i>Gleditsia triacanthos</i> (Honey Locust) | M | 6.0 | 2.2 | 4.1 | 113.0 | Surrounding raised planted and adjacent building to be demolished within SRZ/TPZ. Located within footprint of proposed new landscape area within pedestrian plaza. | Proposed works will necessitate removal. | Remove tree. |

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

| Tree Identification No. | Species | Construction Tolerance | Tree Protection Zone (m R) | Structural Root Zone (m R) | Minimum Setback Distance (tangent to root plate) | TPZ (m ²) | Incursions To Root Zone &/or Canopy | Likely Impact | Recommendation |
|-------------------------|---|------------------------|----------------------------|----------------------------|--|-----------------------|--|--|----------------|
| 23 | <i>Fraxinus griffithii</i> (Evergreen Ash) | M | 3.0 | 1.6 | 2.0 | 28.3 | Located within footprint of new concrete unit turf pavement [Pavement Type 01c]. | Proposed works will necessitate removal. | Remove tree. |



APPENDIX 5
 TREE LOCATION PLAN SHOWING
 TREE RETENTION VALUES
 3-5 Help Street, CHATSWOOD, NSW

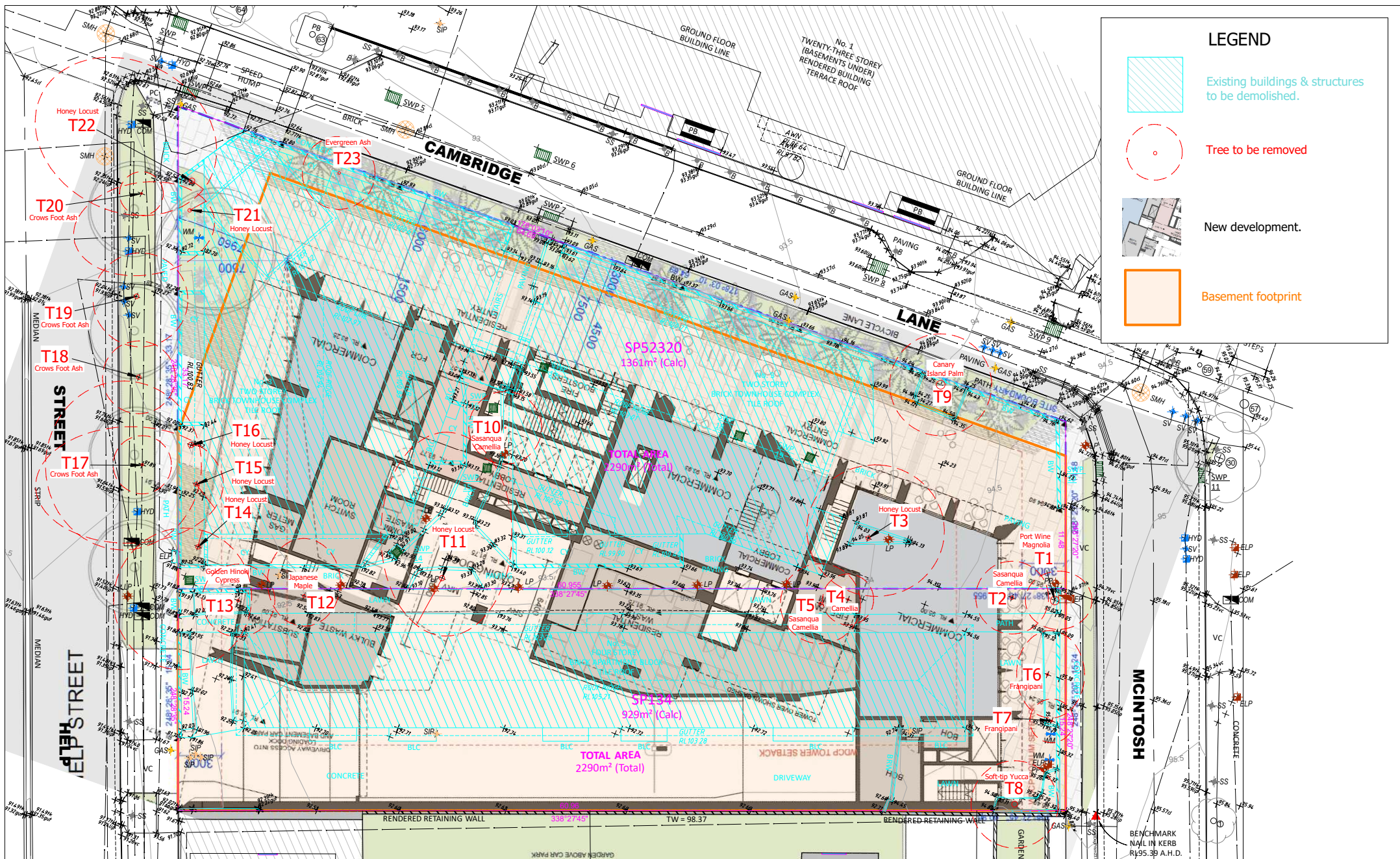


Earthscape Horticultural Services
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 PO Box 364
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 Fax: 02 9456 5757 e: earthscape@inet.net.au

Based on the Survey Drawing
 prepared by SDG Pty Ltd
 Dwg Ref No. 8917 [C]
 Dated 24/04/2023

DWG No. T22-1209/01 [B]

DATE: 15/05/2023



APPENDIX 6
 TREE PROTECTION PLAN
 3-5 Help Street, CHATSWOOD, NSW



Earthscape Horticultural Services
 Arboricultural and Horticultural Consultants
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 Ph: 02 9456 4787
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Based on the Survey Drawing
 prepared by SDG Pty Ltd
 Dwg Ref No. 8917 [C]
 Dated 24/04/2023



DWG No. T22-1209/02 [E]

DATE: 06/03/2025